

CLAIMS

What is claimed is:

1. An expanding-blade broadhead comprising:
 - a ferrule having a longitudinal channel formed therein; and
 - a blade having a boss extending transversely from said blade, said boss received in said channel for coupling said blade to said ferrule for relative sliding movement within said channel from a retracted position to a deployed position.
2. The expanding-blade broadhead of claim 1 further comprising a collar located adjacent said ferrule to retain said boss in said channel.
3. The expanding-blade broadhead of claim 1 wherein said longitudinal channel has a height and a width, at least one of said height and said width expanding in a direction from a leading end to a trailing end of said ferrule.
4. The expanding-blade broadhead of claim 1 wherein a geometry of said longitudinal channel is complementary to said boss and said ferrule further comprises a lip which cooperates with said boss to retain said blade in said ferrule.

5. The expanding-blade broadhead of claim 4 wherein relief is provided on said lip.

6. The expanding-blade broadhead of claim 1 wherein said blade has a cutting edge formed thereon and a camming surface formed on an edge opposite said cutting edge which cooperates with said channel formed in said ferrule.

7. The expanding-blade broadhead of claim 6 wherein said camming surface engages a collar located adjacent said ferrule to move said blade through a blade travel path.

8. The expanding-blade broadhead of claim 6 wherein said camming surface comprises a radiused section rearward of said boss.

9. The expanding-blade broadhead of claim 8 wherein said camming surface comprises a straight section between said boss and said radiused section.

10. The expanding-blade broadhead of claim 6 wherein said camming surface comprises a radiused portion forward of said boss.

11. The expanding-blade broadhead of claim 1 wherein said blade has a notch formed at a forward end thereof, said notch engaging said ferrule when said blade is in said retracted position to limit rotational movement thereof.

12. The expanding-blade broadhead of claim 1 further comprising a retainer element operable to engage said blade for releasably maintaining said blade in said retracted position.

13. The expanding-blade broadhead of claim 12 wherein said retainer element is disposed within said channel of said ferrule.

14. The expanding-blade broadhead of claim 13 wherein said retainer element comprises a compliant element disposed within the ferrule and partially extending into said channel.

15. The expanding blade broadhead of claim 12 further comprising an elastic element disposed around said ferrule to releasably engage a portion of said blade when said blade is in said retracted position.

16. The expanding blade broadhead of claim 15 further comprising a hook disposed on a tail portion of said blade, said hook operable to engage said elastic element when said blade is in said retracted position.

17. The expanding blade broadhead of claim 15 wherein said ferrule has a groove formed therein, said elastic element being disposed in said groove.

18. The expanding-blade broadhead of claim 1 further comprising a retainer clip having a collar disposed at a trailing end of the ferrule and a leg extending into said longitudinal channel for releasably maintaining said blade in said retracted position.

19. The expanding-blade broadhead of claim 18 wherein said retainer clip further comprises a bump formed on said leg which corporates with a detent formed in said blade.

20. The expanding-blade broadhead of claim 1 wherein said blade comprises a planar flank portion having said boss extending therefrom and a tapered edge portion.

21. An expanding-blade broadhead comprising:
a ferrule having a channel formed therein along a longitudinal axis;
and
a blade disposed in said channel and operably coupled to said ferrule for relative sliding movement within said longitudinal channel from a retracted position along a blade travel path to a deployed position;

wherein said blade travel path includes a first section wherein a rear tip of said blade moves generally parallel to said longitudinal axis and a second section wherein said rear tip moves radially outwardly from said longitudinal axis.

22. The expanding-blade broadhead of claim 21 wherein said blade comprises a boss extending transversely therefrom, said boss received in said channel for coupling said blade to said ferrule.

23. The expanding-blade broadhead of claim 21 wherein said blade comprises a camming surface which cooperates with said channel to move said blade along said blade travel path.

24. The expanding-blade broadhead of claim 21 wherein said camming surface comprises a straight section for providing said first section of said blade travel path and a radiused section for providing said second section of said blade travel path.

25. The expanding-blade broadhead of claim 24 wherein said camming surface is formed on an edge of said blade.

26. An expanding-blade broadhead comprising:
 - a ferrule having a channel formed therein and a lip adjacent said channel;
 - a blade having a cutting edge, a camming surface opposite said cutting edge and a boss extending transversely from said blade, said boss received in said channel and retained therein by said lip, said boss coupling said blade to said ferrule for relative sliding movement within said channel from a retracted position to a deployed position; and
 - a retainer located adjacent said ferrule to retain said blade in said channel and to cooperate with said camming surface to move said blade through a blade travel path.

27. The expanding-blade broadhead of claim 26 wherein said retainer comprises a ramped element extending into said channel to cooperate with said camming surface.

28. The expanding-blade broadhead of claim 26 wherein said camming surface comprises a radiused section rearward of said boss.

29. The expanding-blade broadhead of claim 28 wherein said camming surface comprises a straight section between said boss and said radiused section.

30. The expanding-blade broadhead of claim 28 wherein said camming surface comprises a radius portion forward of said boss.

31. The expanding-blade broadhead of claim 26 wherein said longitudinal channel has a height and a width, at least one of said height and said width expanding in a direction from a leading end to a trailing end of said ferrule.

32. The expanding-blade broadhead of claim 26 wherein a geometry of said longitudinal channel is complementary to said boss and said ferrule further comprises a lip which cooperates with said boss to retain said blade in said ferrule.

33. The expanding-blade broadhead of claim 29 wherein a relief is provided on said lip.